

## **NASA Astromaterials Curatorial Facility (4/2006)**

Any samples of extraterrestrial planetary materials returned by Mars Scout missions must be delivered to the NASA Astromaterials Curatorial Facility located at NASA's Johnson Space Center in Houston, TX. Investigation teams will be responsible for all aspects of the delivery of such materials to this facility, which will be given the task of providing for the physical security, inventory accountability, environmental preservation, and distribution of the samples in support of scientific research programs organized around each mission, including sample processing in support of the mission Science Team. NASA shall keep the remainder in pristine condition for research competitively proposed by the community at large.

Funding for use of the Curatorial Facility, including laboratory construction or modification, must be included in the budget for the proposed mission. The anticipated costs of sample curation are based on the following guidelines:

The Curatorial Facility currently houses the Apollo lunar samples, Antarctic meteorites, stratospheric cosmic dust, the Genesis solar wind collectors, the Stardust comet and interstellar dust collectors, and the Genesis and Stardust spacecraft, in separate laboratories. These laboratories are class 10 to class 10,000 clean rooms that operate under strict contamination protocols appropriate to the specific sample characteristics. Samples from any new mission must be kept physically isolated from the current and anticipated collections to preclude cross-contamination. Isolation may require the construction of new laboratories or modification of existing facilities.

The actual costs for all aspects of curation specific to a new sample return mission will be borne by the mission from inception through two years following sample return. Curation personnel include JSC Civil Servants and Contractors, with costs calculated under full-cost accounting principles.

Curation responsibilities, to be funded by the proposed mission, include the following items:

**DOCUMENTATION** - During the first several years of mission development, members of the Curation staff support the Mission Team in the preparation of baseline documents and the development of requirements. These documents and requirements include interpretation of spacecraft material interactions with samples, as well as control of spacecraft contamination.

**PLANNING AND REVIEWS** - During the entire duration of the mission, members of the Curation staff support the Science Team in planning, reviews, and the preparation of documents.

**LABORATORY** - During the years immediately before mission return, a

Curation Laboratory appropriate to mission science requirements is identified, or designed and built, at JSC. The laboratory is equipped and certified for operation prior to mission return. This laboratory is used for deintegration of the sample container, as well as for storage, preparation, and allocation of samples.

RECOVERY - Curation staff members support pre-recovery rehearsals, reviews, and document preparation, as well as operations at the recovery site, contingency planning, and operations to maintain scientific integrity of the samples. Curation staff members also support transportation of the spacecraft to JSC, deintegration of the spacecraft and sample container, and controlled storage of the spacecraft.

SCIENCE TEAM - Curation staff members directly support the Science Team in the planning and execution of Preliminary Examination as part of curation custody and documentation requirements.

CATALOG - Curation staff members directly support the Science Team in the preparation of a Sample Catalog which is a part of required curation documentation.

SAMPLE CURATION - Curation staff members develop and execute procedures for long-term sample storage, preparation, and allocation of samples to the science community following the conclusion of Preliminary Examination."

Any requirements for special sample containment and handling beyond those needed for scientific purposes will be determined prior to launch by the NASA Planetary Protection Officer in accordance with NPD 8020.7E "Biological Contamination Control for Outbound and Inbound Planetary Spacecraft" or the current revision. The additional curation costs generated by any such special requirements will be borne by the mission.